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## BIRDS COLLECTED AND OBSERVED IN THE DARBHANGA DISTRICT, TIRHOOT, BENGAL.

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THE country does not require much description, in most parts being almost flat. Small woods, mostly formed of mango trees, are plentifully scattered over the plains. Rice is largely grown, besides other crops, as maize, wheat, and oats. Here and there are large sheets of water, which in winter abound with all kinds of water-fowl. The principal rivers are the Kamla on the west, and the Bolan on the east, both flowing from the hill ranges of Nepaul.

My thanks are largely due to Mr. C. M. Inglis, who furnished me with many interesting notes, which help to make this paper more complete than it would otherwise have been.

*Corvus macrorhynchus*, Wagl. (Jungle-Crow). — Common. Commences building in February. Eggs found in March and April. The nest, which is a large mass of sticks, and lined with dried grass and roots, is placed in mango or pekul trees. Usual number of eggs from three to four.

*C. splendens*, Vieill. (House-Crow). — Very common, more so than the last. Breeds throughout the district in May and June. Usual number of eggs four, though I have taken a nest containing five.

*Dendrocitta rufa*, Scop. (Common Tree-Pie).—Very common. Frequents mango groves and gardens. It is very fond of eating eggs and young birds, and does great damage to peas when they are ripe. It breeds in April and May, building in mango and sisoo trees. The usual complement of eggs is three.

*Parus atriceps*, Horsf. (Indian Grey Tit).—Fairly common. Though some do remain to breed, the majority are cold-weather visitors.

*Argya caudata*, Dum. (Common Babbler).—I have not found this bird at all common anywhere in the district.

*Crateropus canorus*, Linn. (Jungle Babbler).—Very common everywhere. Seen always in small flocks. This bird is known to Europeans in India as the "Seven Sisters." They breed nearly throughout the year. The nest is made of dried grass, and contains from four to six deep blue eggs. These birds may often be seen mobbing Hawks and Owls, keeping up the while their noisy chatter.

*Zosterops palpebrosa*, Temm. (Indian White-Eye).—Very common. Found during winter in small flocks. They build during May, making a very neat little nest of grass lined with thistle-down and small feathers. The nest is usually placed on a mango tree a few feet from the ground, and is well concealed by leaves. Three is the full complement of eggs.

*Ægithina tiphia*, Linn. (Common Iora).—Very common in all the well-wooded parts of the district. This bird is silent, as a rule, during winter, but as soon as the warm days begin to set in its curious ringing cry is heard in nearly every mango grove. It is on the whole a shy bird, and keeps well out of sight among the thickest part of a tree. They breed from April to July, laying three eggs.

*Molpastes bengalensis*, Blyth (Bengal Red-vented Bulbul).—Exceedingly common. Breeds from March to August. Three is the full complement of eggs.

*Otocompsa emeria*, Linn. (Bengal Red-whiskered Bulbul).—I have always found this bird rare. I have only one pair, shot in a garden.

*Sitta castaneiventris*, Frankl. (Chestnut-bellied Nuthatch).—Common in all well-wooded parts of the district. Breeds from March to April. It lays its eggs in the holes of trees. The hole



is always plastered round with mud. Five is the full complement of eggs.

*Dicrurus ater*, Herm. (Black Drongo).—Very common. They are most pugnacious birds, always fighting amongst themselves, and attacking every bird they come across—even birds as big as Kites. This is the earliest bird to rise, and the last to retire. Its note is very often heard long before daylight. It breeds in April, May, June, and July.

*D. caerulescens*, Linn. (White-bellied Drongo). — A pair were shot by Mr. C. M. Inglis in the Madubuni Sub-division.

*Dissemurus paradiseus*, Linn. (Racket-tailed Drongo). — Mr. Inglis writes:—"Five were seen at Sarso, five miles west of Jhanjrupur, on Jan. 9th, 1899."

*Acrocephalus dumetorum*, Blyth (Blyth's Reed-Warbler).—Very common during winter.

*Orthotomus sutorius*, Forst. (Indian Tailor-Bird).—Very common. Breeds during March, April, May, and June. One nest I knew of was built on a Croton plant, which was in a pot standing in the verandah of a house. Four is the usual complement of eggs.

*Cisticola cursitans*, Frankl. (Rufous Faintal-Warbler).—Very common. Breeds in March, July, and August.

*Prinia inornata*, Sykes (Indian Wren-Warbler).—Common. Breeds in June and July. The nest is built among long grasses, and on the indigo plants. Three to four is the full complement of eggs.

*Lanius nigriceps*, Frankl. (Black-headed Shrike).—I have seen this bird several times during winter among sugar-cane.

*L. tephronotus*, Vig. (Grey-backed Shrike).—Rarer than the last, and also a cold weather visitor.

*L. cristatus*, Linn. (Brown Shrike).—Common during winter. It sometimes arrives as early as the end of August, but this is exceptional, the majority of birds arriving in October.

*Tephrodornis pondicerianus*, Gmel. (Common Wood-Shrike). Scarce. I have only two specimens in my collection.

*Pericrocotus speciosus*, Lath. (Scarlet Minivet). — One specimen seen by Mr. Inglis in the district.

*P. peregrinus*, Linn. (Small Minivet). — Very common in all mango groves. Breeds during April, May, and June. The nest

is a neat cup-shaped affair, composed of moss and lichens. Three is the full complement of eggs.

*Campophaga melanoschista*, Hodgs. (Dark-Grey Cuckoo-Shrike).—Not a common bird.

*Graucalus macii*, Less. (Large Cuckoo-Shrike).—A common cold weather migrant.

*Oriolus indicus*, Jerd. (Black-naped Oriole).—One specimen was seen by Mr. Inglis at Narhar.

*O. kundoo*, Sykes (Indian Golden Oriole).—A common summer migrant. It breeds during April, May, June, and July, usually in mango trees. This bird has a fine melodious whistle. The young follow their parents for some time after they are fledged.

*O. melanocephalus*, Linn. (Black-headed Oriole).—Very common and a resident. Breeds in March, April, June, and July.

*Pastor roseus*, Linn. (Rose-coloured Starling).—Very rare. I shot a single specimen at Dalsingh Serai on March 4th, 1900. I saw several feeding in a carrot-field, in company with some Mynahs; but I only managed, with great difficulty, to secure the one, as they were very shy at the approach of a gun.

*Sturnus menzbieri*, Sharpe (Common Starling).—A common winter visitor, appearing in large flocks, and usually found in rice-lands. I have often noticed mixed flocks, consisting of this bird, *Acridotheres tristis*, *Sturnopastor contra*, and *Corvus splendens*.

*Sturnia malabarica*, Gmel. (Grey-headed Mynah).—Common, and breeds in the district. The nest is made in the hole of a tree. Four, I think, is the full complement of eggs. These birds are very fond of the fruit of the pepul tree (*Ficus religiosa*). They are gregarious in their habits, keeping to themselves, and not mixing much with other birds.

*Temenuchus pagodarum*, Gmel. (Black-headed Mynah).—Fairly common. A nest found at Dalsingh Serai on June 23rd, 1901, contained three half-fledged young and one addled egg. The nest was in the hole of a mango tree a few feet from the ground.

*Acridotheres tristis*, Linn. (Common Mynah).—Exceedingly common, and breeds almost everywhere. I have found their nests in holes of trees, under the thatch of houses, holes in walls,



and in pigeon-cotes. They begin to lay in May. Five is the full complement of eggs. A curious pied variety of this bird was shot by Mr. C. M. Inglis at Jainagar. An albino was seen by my brother at Dalsingh Serai.

*A. ginginianus*, Lath. (Bank Mynah). — Not a very common bird. They breed in holes in the banks of rivers. Four to five is the usual number of eggs.

*Æthiospar fuscus*, Wagl. (Jungle Mynah). — This is, I have found, the rarest Mynah we have. They do not, I think, breed in the district, as my collectors never came across a nest. They disappear about May, and return again in July.

*Sturnopastor contra*, Linn. (Indian Pied Mynah). — Quite as common as *A. tristis*. Breeds in April, June, and July, making a large untidy nest of grass in a mango or pekul tree. They breed, as a rule, in small colonies. Five is the full complement of eggs.

*Siphia parva*, Bechst. (European Red-breasted Flycatcher). — A cold weather visitor, and common in mango groves.

*Cyornis superciliaris*, Jerd. (White-browed Flycatcher). — One specimen shot by Mr. C. M. Inglis at Narhar on March 18th, 1898.

*C. rubeculoides*, Vig. (Blue-throated Flycatcher). — A scarce cold weather visitor.

*Stoparola melanops*, Vig. (Verditer Flycatcher). — Not uncommon during the cold weather.

*Culicicapa ceylonensis*, Swains. (Grey-headed Flycatcher). — Common in mango groves during winter.

*Terpsiphone paradisi*, Linn. (Indian Paradise Flycatcher). — Very common. Breeds in April in mango groves. Four is the full complement of eggs laid by this bird.

*Hypothymis azurea*, Bodd. (Indian Black-naped Flycatcher). — I have only one specimen in my collection. It is not a common bird, keeping to well-wooded parts.

*Rhipidura albifrontata*, Frankl. (White-browed Fantail Flycatcher). — Very common in mango groves. Breeds in April and May. This bird has a habit of spreading out its tail when alighting on a tree.

*Pratincola caprata*, Linn. (Pied Bush-Chat). — Common during the cold weather among thick grasses and sugar-cane.

*P. maura*, Pall. (Common Indian Bush-Chat).—Very common during the cold weather. Affects the same situations as the last.

*P. leucura*, Blyth (White-tailed Bush-Chat).—I never saw this bird myself, but my friend Mr. C. M. Inglis writes that he saw a bird at Nashar, which he took to be this species.

*Ruticilla rufiventris*, Vieill. (Indian Redstart).—A common cold weather visitor, arriving in October, and departing again in March.

*Cyanecula suecica*, Linn. (Red Spotted Blue-throat).—This bird is very common during the cold weather among sugar-cane and tall grasses. It usually arrives about the end of September.

*Calliope camtschatkensis*, Gmel. (Common Ruby-throat).—Two were seen by Mr. Inglis at Narhar.

*Copsychus saularis*, Linn. (Magpie-Robin).—Extremely common. It breeds in April, May, and June. Five appears to be the full complement of eggs. This bird is much prized by the natives for cages, on account of its sweet song.

*Cittocincla macrura*, Gmel. (Shama).—One of Mr. Inglis's collectors shot a specimen of this bird at Narhar in February, 1900.

*Merula atrigularis*, Temm. (Black-throated Ouzel).—I once came across a small flock of these birds at Dalsingh Serai in March, 1900, but was unable to secure any.

*Geocichla citrina*, Lath. (Orange-headed Ground-Thrush).—A scarce winter visitor. Usually seen in mango groves.

*Oreocincla dauma*, Lath. (Small-billed Mountain-Thrush).—A pair were shot by Mr. Inglis's collectors at Narhar in March, 1899.

*Ploceus baya*, Blyth (Baya).—Common. Breeds during the rains, making a large hanging nest. Most of the nests I have taken were hung on palm trees, but I have seen them on mimosa and sisoo trees. Two is the full complement of eggs.

*P. bengalensis*, Linn. (Black-throated Weaver-Bird).—Common, but not quite as common as *P. baya*. They build in rushes and long grass, breeding in June, July, August, and September.

*Munia atricapilla*, Vieill. (Chestnut-bellied Munia).—Found commonly in July and August.

*Uroloncha malabarica*, Linn. (White-throated Munia).—Very common on waste lands in large flocks. It breeds in every month except January and June.

*U. punctulata*, Linn. (Spotted Munia).—I have always found this the rarest of the Munias. It breeds in March, July, August, September, and November.

*Sporæginthus amandava*, Linn. (Indian Red Munia).—Fairly common. Found breeding in July, August, and October.

*Carpodacus erythrinus*, Pall. (Common Rose-Finch).—I saw two in the possession of a birdcatcher, who told me he had caught them in the district.

*Gymnorhis flavicollis*, Frankl. (Yellow-throated Sparrow).—I have only one specimen, shot by one of my collectors.

*Passer domesticus*, Linn. (House-Sparrow).—Extremely common. Breeds almost anywhere nearly throughout the year.

*Cotile sinensis*, Gray (Indian Sand-Martin).—Very common. Found breeding in January, April, and November.

*Hirundo rustica*, Linn. (Swallow).—A common cold weather migrant, often staying well on into summer. First arrivals noticed in September.

*H. nepalensis*, Hodgs. (Striated Swallow).—Several times noticed in company with *H. rustica* and *C. sinensis*.

*Motacilla alba*, Linn. (White Wagtail).—A common cold weather visitor, seen everywhere.

*M. leucopsis*, Gould (White-faced Wagtail).—Common.

*M. personata*, Gould (Masked Wagtail).

*M. hodgsoni*, Gray (Hodgson's Pied Wagtail).—Very common.

*M. maderaspatensis*, Gmel. (Large Pied Wagtail).—Very common. Commences nesting in June.

*M. borealis*, Sundev. (Grey-headed Wagtail).—A cold weather migrant.

*M. flava*, Linn. (Blue-headed Wagtail).—A common cold weather visitor. Arrives first in October.

*M. beema*, Sykes (Indian Blue-headed Wagtail).—Very common, and often confounded with the last.

*M. citreola*, Pall. (Yellow-headed Wagtail).—Not very common. Arrives first in October.

*Anthus maculatus*, Hodgs. (Indian Tree-Pipit).—Exceedingly common during the cold weather, and much sought after by

native birdcatchers, who, with these birds and the Short-toed Lark, sell to Europeans as "Ortolans." These Pipits assemble in large flocks, usually in mango groves, or under the shade of any large tree.

*A. rufulus*, Vieill. (Indian Meadow-Pipit). — A very common resident. Breeds in March, April, and May. A nest found by myself was situated under a clod of earth. The nest was composed of grass, and contained four eggs.

*Calandrella brachydactyla*, Leisl. (Short-toed Lark). — A common winter visitor, appearing in rice-fields in enormous flocks. This bird is also caught under the name of "Ortolan."

*Alaudula raytal*, Buch. Ham. (Ganges Sand-Lark). — Common on the banks of large rivers.

*Alauda gulgula*, Frankl. (Indian Sky-Lark). — I have not found this bird at all common. Its song is not so long or melodious as the European Lark.

*Mirafra assamica*, McClell. (Bengal Bush-Lark). — Very common. Numbers noticed in April, May, and June. A nest I took was placed on the ground, and contained four eggs.

*Galerita cristata*, Linn. (Crested Lark). — Very common on waste and grassy lands.

*Pyrrhuloxia grisea*, Scop. (Ashy-crowned Finch-Lark). — Very common on waste and grassy lands. It has a curious habit of rising a few feet from the ground, uttering the while a curious mournful whistle. They are very tame, and will let one get within a few feet of them before taking wing.

*Arachnechthra asiatica*, Lath. (Purple Sun-bird). — Common. Breeds throughout the district in February, March, April, and May. It builds a hanging nest placed in a variety of situations, as a rule on trees and shrubs, and rarely under the eaves of houses.

*Dicaeum erythrorhynchus*, Lath. (Tickell's Flower-pecker). — Very common, keeping to the tops of high trees and on flowering shrubs. I have never found its nest.

*Piprisoma squavidum*, Burt. (Thick-billed Flower-pecker). — Common. Breeds in March, April, May, and June, making a very neat purse-shaped nest, as a rule built on mango trees. Three is the full complement of eggs.

*Liopicus mahrattensis*, Lath. (Yellow-fronted Pied Wood-



pecker).—I have never found this bird common, and have very few specimens.

*Iyngipicus hardwickii*, Jerd. (Indian Pigmy Woodpecker).—Not uncommon among mango groves.

*Micropternus phaeiceps*, Blyth (Rufous Woodpecker).—I have only seen two specimens of this bird during the four years I was collecting.

*Brachypternus aurantius*, Linn. (Golden-backed Woodpecker). This is by far the commonest Woodpecker in the district, and its curious cry is heard in nearly every mango grove. Breeds in March, April, May, and June, and I once found a nest in July. Three is the full complement of eggs.

*Iynx torquilla*, Linn. (Wryneck).—An uncommon cold weather visitor. I have only once seen it, and one specimen was shot by one of my collectors.

*Thereiceryx zeylonicus*, Gmel. (Common Indian Green Barbet).—Very common. Breeds in April, May, and June. One nest I found at Dalsingh Serai in June contained three newly-hatched young. The nest was in a hole in the branch of a peepul tree a few feet from the ground.

*Xantholœma hæmatocephala*, Müll. (Crimson-breasted Barbet). Very common. Its monotonous cry of "tok tok tok" is heard as soon as the warm days set in, and is kept up from morning to night without ceasing. They breed in February, March, and April. I watched one making a nest-hole in an acacia tree in February, 1900, but unfortunately before the nest was finished one of the birds was killed by flying against a window. Another bird I watched was hollowing a hole in a bamboo.

*Coracias indica*, Linn. (Indian Roller).—Common throughout the district. Breeds in March, April, May, and June. A nest found in April contained two young. Three is the usual number of eggs, though I have taken four on one occasion.

*Merops viridis*, Linn. (Common Green Bee-eater). — Very common. Breeds in March, April, and May. Three to four is the usual number of eggs.

*M. philippinus*, Linn. (Blue-tailed Bee-eater). — Not so common as *M. viridis*, but nevertheless found in considerable numbers in some places. Though it is a resident, its numbers are greatly increased during the hot weather by migrants. It breeds

in large numbers in holes of sand-banks near water. These birds have a habit of soaring with wings almost motionless during the evenings. I have watched them several times doing this, for what purpose I cannot say, as they never caught any insects at the time.

*Ceryle varia*, Strickl. (Pied Kingfisher).—This is the commonest Kingfisher found here, and is seen hovering over nearly every piece of water. In December, 1897, I found a nest in the hole of a bank of a river containing three half-fledged young.

*Alcedo ispida*, Linn. (Common Kingfisher).—Very common during the cold weather, but I do not think they remain to build anywhere in the district, as I never heard of a nest, though I took special pains to find one.

*Pelargopsis gurial*, Pears. (Brown-headed Stork-billed Kingfisher).—This I have always found a somewhat scarce bird. It feeds chiefly on fish, but Mr. Stuart Baker mentions that he once saw one devouring a nest of young Mynahs. They have a curious habit, when sitting, of constantly jerking the head from side to side. Their cry may be described as a mournful wail.

*Halcyon smyrnensis*, Linn. (White-breasted Kingfisher).—An uncommon bird, and very difficult to shoot on account of their extreme wariness.

*H. pileata*, Bodd. (Black-capped Kingfisher).—A fine male of this rare species was shot by me at Dalsingh Serai on Feb. 25th, 1900. It was sitting on a bamboo near the river. The stomach contained the remains of some fish and beetles, the latter being undigested. As far as is known, this is the first example of the species procured or seen in this district. The skin is now in Mr. Inglis's collection.

*Lophoceros birostris*, Scop. (Common Grey Hornbill).—Fairly common. Their food seems to consist of fruit, they being especially fond of the fruit of the pepul tree (*Ficus religiosa*). A nest was found by Mr. Inglis in a cotton tree (*Bombax*).

*Upupa epops*, Linn. (European Hoopoe).—Very common during winter. This and the next species very probably interbreed.

*U. indica*, Reich. (Indian Hoopoe).—A common resident. A pair nested in March this year (1901) in a bungalow near Darbhanga, and hatched out all the young. They will at once desert

the nest if they have the least suspicion it has been touched, as I have more than once found when a pair were nesting, and on putting in my hand to feel for eggs, though the birds had not laid, they deserted. It is curious how few nests are come across, considering how common the bird is.

*Cypselus melba*, Linn. (Alpine Swift). — I have several times seen these birds, but was unable to shoot any.

*C. affinis*, Gray (Common Indian Swift). — Common everywhere.

*Tachornis batassiensis*, Gray (Palm Swift). — Very common. Breeds nearly throughout the year on palm trees. Three is the full complement of eggs.

*Chætura* sp.?. — Mr. Inglis writes:—"On the evening of Aug. 26th, 1897, I saw from twelve to fifteen Spinetails flying over Janiagar in a northerly direction."

*Caprimulgus macrurus*, Horsf. (Horsfield's Nightjar). — Often seen in the cold weather.

*C. asiaticus*, Lath. (Common Indian Nightjar). — I have only twice shot this species. This bird has a curious note, like the sound ice makes when a stone is thrown along it.

*Cuculus micropterus*, Gould (Indian Cuckoo). — More often heard than seen. Its cry resembles the words, "Make more pekoe."

*C. canorus*, Linn. (European Cuckoo). — I once saw this species sitting on some railings at Dalsingh Serai in March, 1900. There was no mistaking the species, as it was uttering its familiar cry at the time I saw it.

*Hierococcyx varius*, Vahl. (Common Hawk-Cuckoo). — Very common and very noisy during the hot weather, but silent during winter. This is the hated "Brain-fever Bird" of Europeans in India, as its cry is said to resemble the words "brain-fever."

*Coccytes jacobinus*, Bodd. (Pied Crested Cuckoo). — A common summer migrant, arriving in May.

*Eudnamys honorata*, Linn. (Indian Koël). — Very common during the hot weather and monsoon. It lays its eggs in the nests of the House-Crows. Its food consists of fruit and birds' eggs.

*Taccocua leschenaulti*, Less. (Sirkeer Cuckoo). — This is not a very common bird, and perhaps often overlooked on account of

its skulking habits. It breeds in April and May, making a big nest of grass. Three is the full complement of eggs.

*Centropus sinensis*, Steph. (Common Coucal).—Very common in long grasses and among bamboos. It commences nesting in May, building a large globular nest of grass. Three is the full complement of eggs laid. The call of this bird resembles the words "puss puss," uttered in a very deep tone.

*C. bengalensis*, Gmel. (Lesser Coucal).—I have myself never come across this species, but Mr. Inglis's collectors shot a pair at Narhar.

*Palæornis nepalensis*, Hodg. (Large Indian Paroquet).—I have only on two occasions seen small flocks of this bird.

*P. torquatus*, Bodd. (Rose-ringed Paroquet).—This is the commonest Paroquet found in this district. It breeds in March, April, and May. They are very destructive to native crops, especially millet, which they carry off wholesale. A number were found breeding in a big cotton tree in May.

*P. cyanocephalus*, Linn. (Western Blossom-headed Paroquet). This species is fairly common.

*Strix flammea*, Linn. (Barn-Owl).—A rare bird in this district. I have two specimens in my collection shot at Jainagar. A pair were seen in an outhouse at Hattowrie Factory, Darbhanga, in May, 1901. One egg was taken from the nest, which consisted of a heap of ejected pellets.

*S. candida*, Tickell (Grass-Owl).—I have once or twice flushed this species from big grass jungle, and on one occasion found their young.

*Syrnium ocellatum*, Less. (Mottled Wood-Owl).—This fine species is rare. I shot one near Darbhanga in December, 1900, and have seen one or two others. From their castings I have examined, their food seems to consist only of small rodents.

*Scops giu*, Linn. (Scops Owl).—Mr. Inglis's collectors shot one specimen in immature plumage.

*Athene brama*, Temm. (Spotted Owlet).—This little Owl is very common, and several pairs are nearly always to be found in any large tree. They are very quarrelsome, always fighting among themselves, and making a considerable noise both day and night. I once watched the courtship of a pair of them. During this time the male bird was most attentive to the female,



and kept feeding her on large beetles. The process of eating the beetles was effected in this manner: The female would throw back her head, and, after two or three gulps, the beetle would be swallowed. She would then shake her tail and shut her eyes with evident satisfaction. A pair of these Owls some years ago built their nest in the thatch of the house here. For some reason or other one of them took a violent dislike to my father, and as soon as he showed himself outside the door, down would pounce the Owl, and commence a vigorous attack on his head; and on one occasion, whilst he was sitting with other people in the garden, the Owl lifted the cap from off his head. From the castings I have examined, their food seems to consist of insects and bats, and on one occasion I found in one nest a half-grown rat. A nest I found in an outhouse contained three young birds and one fresh egg. I took the young away, together with the parent bird, which was caught on the nest. I kept her for a day, and then released her. About a month after three fresh eggs were found in the same nest, but whether they were laid by the same bird is not certain, though I think it very probable they were.

*Ninox scutulata*, Raffl. (Brown Hawk Owl). — Mr. Inglis writes:—"Very rare. A single specimen procured at Jainagar."

*Asio accipitrinus*, Pall. (Short-eared Owl).—I have only one specimen in my collection, given me by Mr. Inglis.

*Pandion haliaëtus*, Linn. (Osprey).—A common cold weather migrant.

*Otogyps calvus*, Scop. (Black Vulture).—Very common. Lays one large white egg. Nest situated in high trees. I once found a nest in January.

*Pseudogyps bengalensis*, Gmel. (Indian White-backed Vulture).—Common. Breeds in November, December, and January.

*Neophron ginginianus*, Lath. (Small White Scavenger Vulture). Very common. Breeds in February, March, April, and May. A nest I found in April contained two newly-hatched young. The nest was a large mass of sticks placed at the top of a high peepul tree (*Ficus religiosa*).

*Aquila hastata*, Less. (Small Indian Spotted Eagle).—A young bird of this species was procured by Mr. Inglis at Jainagar in August, 1899.

*Spilornis cheela*, Lath. (Crested Serpent-Eagle).—I shot a male of this species out of a pair in July, 1900, at Dalsingh Serai.

*Butastur teesa*, Frankl. (White-eyed Buzzard-Eagle).—Very common. Breeds in April and May.

*Haliaëtus leucoryphus*, Pall. (Pallas's Fishing Eagle).—Fairly common. It breeds in November, making a large nest of sticks at the top of some lofty tree.

*Polioaëtus ichthyaëtus*, Horsf. (Large Grey-headed Fishing Eagle).—Very common. These Eagles are a great nuisance to one when out shooting duck, as any bird that happens to fall dead some way from the boat is at once seized and carried off. They breed in November, December, and January. Two is the full complement of eggs.

*Haliastur indus*, Bodd. (Brahminy Kite).—Abundant everywhere. It nests in February, March, and April. The cry of this Kite resembles the bleating of a sheep.

*Milvus govinda*, Sykes (Common Pariah Kite).—Very common. Breeds in February, March, and April on trees and roofs of houses.

*Elanus cæruleus*, Desf. (Black-winged Kite).—This I have always found a somewhat scarce bird. It nests in July, September, October, November, and January. The nest is usually built in mango trees. One of these Kites killed and carried off a House-Pigeon, which is, I think, a good weight for it to carry, as the Pigeon was quite as large as the Kite.

*Circus macrurus*, Gmel. (Pale Harrier).—Often noticed during the cold weather.

*C. melanoleucus*, Forst. (Pied Harrier).—Very common during winter, frequenting heavy grass jungle.

*C. cyaneus*, Linn. (Hen-Harrier).—A Harrier, which I am sure was this species, was seen by me in January, 1901.

*C. æruginosus*, Linn. (Marsh-Harrier).—A very common winter visitor. Usually arrives about September. One I dissected had the remains of a frog and some crickets in its stomach, and Mr. Inglis informs me he once found a half-digested *Palæornis cyanocephalus* in one he dissected.

*Falco jugger*, Gray (Laggar Falcon).—I only once saw a pair of these birds.

*F. peregrinus*, Tunst. (Peregrine Falcon).—I once saw this bird at Dalsingh Serai in January, 1901. It was hovering over an oat-field.

*F. peregrinator*, Sundev. (Sháhin Falcon).—Mr. Inglis writes : "On the 22nd of December, 1899, I saw a Falcon sitting on a pekul tree near Hattiahi ; it appeared to be this species. A Falcon with very dark-coloured back flew past the Nashar bungalow ; it was flying very fast and low. I couldn't see its lower plumage, but, on account of the very dark colour above, I think it was this species."

*Esalon chicquera*, Daud. (Red-headed Merlin).—Rare. I have a single male in my collection.

*Tinnunculus alaudarius*, Gmel. (Kestrel).—A very common cold weather visitor, arriving in October.

*Accipiter virgatus*, Reinw. (Besra Sparrow-Hawk). — Very common. One specimen I saw had the head white, though the rest of the plumage was of the normal colour.

*A. nisus*, Linn. (Sparrow-Hawk). — I once shot a specimen of this bird in March, 1898. I never came across another.

*Astur badius*, Gmel. (Shikra). — Very common, and much prized by native birdcatchers for the purpose of hawking. It breeds in April.

*Pernis cristatus*, Cuv. (Crested Honey-Buzzard).—Fairly common in well-wooded parts of the district. In June, 1901, I took a nest containing two young. Whilst the boy whom I sent up to take the nest was bringing down the young ones, the old bird kept swooping round his head, uttering a low kind of whistle.

(To be continued.)

THE BLACK-HEADED GULL (*LARUS RIDIBUNDUS*).  
SOME MODIFICATIONS OF HABITS.

BY ROBERT SERVICE.

FOR the most part lacustrine in its nesting habits, the Black-headed Gull is yet by no means unknown as a strictly sea-shore species at the breeding season. One small colony that varies from season to season from sometimes only a dozen pairs to over a hundred pairs has bred annually for many years on one part or another of the grassy salt merses of the Solway to westwards of the Nith estuary.

One season this particular colony had its nests destroyed by a succession of high tides in May, whereupon the birds shifted over the sea-bank to a turnip field, and betwixt the rows of young turnips built fresh nests of sea-wrack brought from tide-marks, and successfully brought off their young. Such modifications of habits are of perennial interest to field ornithologists, and constitute much of the charm attached to the outdoor study of birds.

No other British Gull is so much of a land-bird as this one is, and it appears to me that it is becoming greatly more attached to the land in several respects than it was in by-past years. So far as my own experience goes, it was in the abnormally severe winter of 1878-79 that I first noted these Gulls perched in rows upon house-roofs, or alighting on the streets, or coming to the back gardens and such places for food. Previously this habit was only indulged in by an odd bird or two. Since then it has become quite an everyday thing whenever frost of a few days' duration sets in. And there can be little question that they spend far longer time nowadays upon the pasture fields and amongst the crops, instead of going away to the river-sides, estuaries, and shores, as they once did when nesting-days were over. An older generation looked upon the presence of flocks of these Gulls on far inland pastures as presaging storms and



unsettled weather. One never hears now of their mention in this connection ; rather, their absence would call for comment. Undoubtedly the amount of food—insectivorous and vermiform—they consume the year round, together, of course, with the astounding increase of the Starling within the last thirty-five to forty years, may be set down as the principal factors that have caused the no less astonishing and remarkable change of habits in the Rook, that has so greatly affected the equanimity of game-preservers. The poor Rooks have been deprived of their natural and rightful share, and have been compelled to try elsewhere for a living at their most pressing time of need, in April and May.

The particular purpose of the present paper is to draw attention to the habit of the Black-headed Gull of catching moths. I first watched them do this in the fine hot and dry summer of 1868. For long subsequent to that year they could only be seen capturing moths on the wing during similar warm summers ; but for at least the last dozen of years these Gulls have regularly and constantly presented this habit. Either from choice or necessity the catching of Lepidoptera after nightfall has become a confirmed annual practice. Formerly we meet, in ornithological literature, with short and fragmentary allusions to this species feeding on the Ghost Moths, picking these from the grass-stems. There seems every reason to believe that moth-catching by this species began with the Ghost Moth. Accurate observers like Blake-Knox and Robert Gray only name Ghost Moths ; if other species were taken they would have been specified. One of the latest present-day notes referring to this habit is in 'British Birds, their Nests and Eggs' (vol. vi. p. 73), where Dr. H. O. Forbes says : "In summer feeds on insects, and especially moths, which it hawks on the wing." That shows how the habit has widened from "Ghost Moths" in particular to "moths" in general.

The habit in question is no mere incidental occurrence confined to a few birds in a restricted locality. It is nightly indulged in by apparently the whole of the birds, and carried on for many a mile around all the breeding colonies in certainly the lowlands of Scotland, south of the Forth and Clyde, and across most of the North of England. Where I have not had personal observation to rely on, I have had the benefit of trustworthy information.

It first becomes widely noticeable as a habit about May 25th, and continues every fine quiet night till about July 20th. After that date, although it does not altogether cease, it appears to be indulged in merely to an individual and rather desultory extent. In the bright gloaming of our northern summer, about the time the last Blackbird lays aside his flute for the night, the Gulls put in a rather sudden appearance, flitting low along the grass, hedgerows, and clumps of shrubs, confining their attentions to such places at first. As the evening wears on they rise higher over the tree-tops and along the woodlands, and for the remainder of the night they frequent these loftier heights, only coming down lower when the night is specially bright, or becomes breezy. So far as I have seen, they take any and every moth they can catch. Early in the evening they can be seen snapping up many easily recognizable species. I have seen them take moths so small as a *Depressaria*. The Gulls capture the moths most dexterously, and it is curious to notice a Gull occasionally make a rush and chase a Bat, probably getting jealous of its moth-catching rival, or perhaps mistaking the flying insectivore for an insect of more than usual dimensions. Standing beneath a tree, over whose top a Gull is gliding, one hears the chuckle of satisfaction emitted when it catches and swallows a victim. Many of the swift-flying *Noctua*e are safe from the Gulls' attentions so long as their usual headlong flight of the early evening continues, but when speed slackens, and they begin to dawdle—as perhaps all the species do in later hours—then the Gulls snap them up continuously.

This moth-catching habit, which has developed so regularly in recent years, occupies, as I have stated, a well-defined period, beginning quite abruptly, and almost to an hour at the same time each season. In various ways, which need not be particularized, I have ascertained with tolerable certainty that throughout the region specified the moths thus caught are for the purpose of feeding the young. No doubt, immature non-breeding birds take part in the pursuit, and apply the proceeds to their own uses, but the main purpose is capture by the breeding birds to feed their young ones.

In this connection I may refer to an excellent paper by Prof. J. Arthur Thomson, M.A., entitled "Some Notes on the Behaviour of Young Gulls artificially hatched and naturally hatched," read

at the recent Glasgow meeting of the British Association. I had the pleasure of listening to this paper, which is printed *in extenso* in the British Association Report for 1901, p. 378. The young Gulls were *L. ridibundus*. Prof. Thomson says :—"They [the newly-hatched Gulls] pecked at the cotton-wool of their beds" (*loc. cit.* p. 379); and further on he says again : "During the first two days they got some of the cotton-wool of their beds into their mouths, but this was inevitable" (p. 380). Why "inevitable"? The Professor evidently attributes this to infantile blundering, but may it not be considerably nearer the mark to suggest that it was due to a longing for the dry fluffy moth-food their hereditary instinct told them they should be provided with? I should have made my suggestion when it occurred to me on the spot, but the formidable row of grey beards and bald heads that clustered round the President of Section D was too awe-inspiring to a mere listener on the back benches.

A further but greatly less marked modification of the habits of this species may also be described here. During those rather infrequent bright and very still days we have in September and October, when insects rise high into the air, Jackdaws and Starlings combine to hunt them, gliding backwards and forwards, Swallow-like, for hours at a time. Always within my recollection such gatherings have occasionally included one or two Black-headed Gulls, but nowadays one never sees them without the Gulls. And the latter may often preponderate in numbers. On such autumn days—days which, it may be said, are invariably characterized by strong migration movements—the principal insect that is being pursued is a large black species of *Chironomus*.

## THE CONSTANCY OF THE BEE.

BY G. W. BULMAN.

Do Bees keep to one species of flower during a single journey? There is a general consensus of opinion that they do, as the following quotations show:—

ARISTOTLE.—“During each flight the Bee does not settle upon flowers of different kinds, but flies, as it were, from violet to violet, and touches no other species till it returns to the hive.”

DOBBS.—“I have frequently followed a Bee loading the farina, bee-bread, or crude wax on its legs through part of a great field in flower, and on whatever flower it first alighted and gathered the farina, it continued gathering from that kind of flower, and passed over many other species, though very numerous in the field, without alighting on or loading from them, though the flower it chose was much scarcer than the others; so that, if it began to load from a daisy, it continued loading from the same, neglecting clover, honeysuckle, and the violet.”\*

DARWIN.—“All kinds of Bees and certain other insects usually visit the flowers of the same species as long as they can, before going to another species.”†

H. MÜLLER.—“The most specialised, and especially the gregarious Bees, have produced great differentiations in colour, which enable them on their journeys to keep to a single species of flower.”‡

LORD AVEBURY.—“It is a remarkable fact that in most cases Bees confine themselves in each journey to a single species of plant.”§

A. R. WALLACE.—“Now it has been ascertained by several observers, that many insects, Bees especially, keep to one kind of

\* ‘Phil. Trans.’ 1736.

† ‘Fertilisation of Plants,’ pp. 415–16.

‡ ‘Fertilisation of Flowers,’ p. 595.

§ ‘British Wild Flowers in Relation to Insects,’ p. 26.



flower at a time, visiting hundreds of blossoms in succession, and passing over other species that may be mixed with them."\*

FRANK R. CHESHIRE.—"The curious habit of the Apidæ of visiting one kind of flower only during any single excursion."†

R. M. CHRISTY.—"So far as Table I. goes, it will be seen that the Hive-Bee is *perfectly* methodical in its habits."‡

A. W. BENNETT.—"The Diptera exhibit greater constancy [than butterflies], though by no means absolute. A much greater degree of constancy is manifested by the Apidæ, and this becomes all but absolute in the Hive-Bee."§

It is generally agreed that the Hive-Bee exhibits this phenomenon of constancy in the highest degree. In my own experience, the Wild Bees which I have had the opportunity of observing have shown a much greater tendency to pass from one species of flower to another than the Hive-Bee.

The following notes refer to *Apis mellifica* only. Each group of observations was made during one period of watching, extending sometimes to an hour and a half. They were noted in a garden during March of the present year:—

Bee No. 1 goes from *Chionodoxa luciliæ* to *Crocus*.

"	2	"	"	"
"	3	"	"	"
"	4	"	<i>Crocus</i> to <i>Chionodoxa luciliæ</i> .	
"	5	"	"	"
"	6	"	"	"
"	7	"	"	"
"	8	"	"	"
"	9	"	"	Snowdrop.

Bee No. 1 goes from *Chionodoxa luciliæ* to *Crocus*.

"	2	"	<i>Erythronium dens-canis</i> to <i>Anemone hepatica</i> .
"	3	"	<i>Crocus</i> to <i>Chionodoxa luciliæ</i> .
"	4	"	<i>Anemone hepatica</i> to <i>Chionodoxa luciliæ</i> .
"	5	"	<i>Crocus</i> to <i>Chionodoxa luciliæ</i> .
"	6	"	<i>Anemone hepatica</i> to <i>Chionodoxa luciliæ</i> .
"	7	"	"
"	8	"	<i>Chionodoxa luciliæ</i> to <i>Anemone hepatica</i> .
"	9	"	<i>Anemone hepatica</i> to <i>Chionodoxa luciliæ</i> .
"	10	"	<i>Crocus</i> to <i>Scilla Sibirica</i> .

\* 'Darwinism,' p. 318.

† 'Bees and Bee-keeping,' vol. i. p. 319.

‡ 'Proc. Linn. Soc. Zool.' vol. xvii. p. 186.

§ *Ibid.* p. 184.

Bee No. 1 goes from *Cyclamen Cóm* to *Chionodoxa luciliæ*.

" 2 " *Crocus* to *Chionodoxa luciliæ*.

" 3 " *Scilla Sibirica* to *Chionodoxa luciliæ*.

" 4 " " " "

" 5 " *Crocus* to *Chionodoxa luciliæ*.

" 6 " " "

" 7 " " "

" 8 " " "

Bee No. 1 goes from *Chionodoxa luciliæ* to *Scilla Sibirica*.

" 2 " *Scilla Sibirica* to *Chionodoxa luciliæ*.

" 3 " " "

" 4 " " "

" 5 " " "

" 6 " " "

" 7 " *Crocus*.

" 8 " *Chionodoxa luciliæ* to *Viola odorata*.

Bee No. 1 goes from *Muscari racemosum* to *Chionodoxa luciliæ*.

" 2 " *Chionodoxa luciliæ* to *Scilla Sibirica*.

" 3 " *Scilla Sibirica* to *Chionodoxa luciliæ*.

Bee No. 1 goes from *Ranunculus Ficaria* to *Viola odorata*.

" 2 " " "

" 3 " *Anemone hepatica* to *Scilla Sibirica*.

" 4 " *Scilla Sibirica* to *Veronica Buxbaumii*.

" 5 " *Anemone hepatica*.

" 6 " *Chionodoxa luciliæ* to *Scilla Sibirica*.

Bee No. 1 goes from *Muscari racemosum* to *Viola odorata*.

" 2 " *Aubrietia Græca* to *Viola odorata*.

" 3 " *Viola odorata* to *Aubrietia Græca*.

" 4 " *Scilla Sibirica* to *Chionodoxa luciliæ*.

## ORNITHOLOGICAL NOTES FROM SURREY.

BY JOHN A. BUCKNILL, M.A.

At the conclusion of my last contribution upon this subject to the pages of 'The Zoologist' (1901, pp. 247-254), I mentioned that I had received a large number of further valuable notes which I shortly hoped to publish; but, as they turned out to be of a most voluminous character, entailing a great amount of labour in their perusal and examination, I have, until now, been unable to present them in a connected or satisfactory form. The notes comprised the observations and the results of a very exhaustive research upon the Birds of Surrey, compiled by two gentlemen (Messrs. J. M. Mitchell and F. Styan), undertaken and begun about the year 1878, and continued for some years after that date, with the view of a subsequent publication in book form. Owing, however, to various causes arising from the necessities of business, and the permanent residence in China of the latter of these two gentlemen, their labours were never completed, and they have now, with great kindness, placed the whole of their notes at my complete disposal. When I add that these records fill the pages of some dozen or more large note-books; that the authors were well acquainted with some of the older county naturalists (Mr. W. Stafford, of Godalming, and Mr. Mansell, of Farnham, in particular); and that, besides having available to themselves sources to which, for reasons unavoidable (such as death or removal of informants), I had no access, they had left no stone unturned to discover and verify the many occurrences of the rarer visitors to the county which they had had brought to their notice in their work—it will be recognized at once that their contribution to a correct account of the avifauna of Surrey is of considerable importance. Two things strike one at once in perusing and classifying these notes: firstly, the number of records which ten years blot out from even the careful investigator; and, secondly, how very curiously my

records, unearthed a decade later, are corroborated by their earlier notes, often obtained from entirely independent and different sources of information.

In addition to these notes, I have had a number of interesting observations sent to me from both old and new correspondents, and have had the opportunity of examining a small but choice collection belonging to Mr. Barnard Hankey, of Fetcham Park, and these notes I have embodied in the present paper.

I might also add that, during 1901, I contributed a concise list of Surrey Birds to Dent's County Guide to Surrey, and a local list to Gordon Home's little work on 'Epsom.'

It may further be of interest to note that the protection afforded to birds in Surrey has been considerably increased by the repeal of the order of the Secretary of State for the Home Department, dated the 7th of March, 1896, and the substitution of another order dated the 27th of November, 1900. The alteration in this order is the inclusion of the following provision:—

"Section 4. — From the 1st of September to the 31st of January (both days inclusive), the killing or taking of *any wild bird* on *Sunday* is prohibited throughout the County of Surrey, except in the parishes of Little Bookham, Buckland, Burstow, Chessington, Chobham, Cobham, Elstead, Farnham, Puttenham, Reigate, Stoke-next-Guildford, Wallington, and Walton-on-Thames."

This for obvious reasons is an excellent addition to protection, which might, however, have been extended to the whole of the county without the exception of any areas; but, at the same time, some few species might with advantage be deprived of the benefits of this clause, such as the House-Sparrow.

Through the kindness of Mr. Reginald Haines, of Uppingham, I have had the opportunity of looking through a number of letters on ornithology, written by that veteran naturalist, Mr. Waring Kidd, of Godalming, in the sixties. They contain much "Selborne-like" philosophy, but, as was only to be expected, the most interesting letter is not forthcoming. In a letter dated December, 1868, he writes:—"I must leave the account I could give you of our winter visitors for another opportunity; they are almost as interesting to me as the others. Also of the occasional



visitors we have, our *most* rare birds; *they* are not many, but I am sure Mr. Inchbald would like to hear of them—such as the Eagles, Ospreys, Bitterns, Little Bittern—one of the latter only (an exceedingly rare instance)—Hoopoes, Bohemian Chatterer, Roller, Nutcracker, Rose-coloured Ouzel, Oriole, &c.” This promised letter is, unfortunately, not to be found—a sad pity. Details of a local Roller would indeed be a welcome addition to the Surrey avifauna. The other letters, though interesting, do not, with one exception, merit specific mention or quotation. The following are the collected notes:—

MISTLE-THRUSH (*Turdus viscivorus*).—Mr. Dalgliesh noticed on more than one occasion, in the present winter at Milford, a partial albino of this species. The head, tail, and part of the wings were white.

RING-OUZEL (*T. torquatus*).—A party of six were observed near Shalford in October, 1878; a single specimen was observed near Gomshall in the spring of 1879, and another was shot at Chilworth in October, 1880 (F. Styan and J. Mitchell).

BLACK REDSTART (*Ruticilla titys*). — A Mr. Simmons, of Haslemere, owned a specimen, shot about 1830 near that place (F. Styan and J. Mitchell). In a letter dated the 13th of April, 1868, written by Mr. Waring Kidd to Mr. Haines, he says:—“I wonder if you have ever met with the Black Redstart—a winter visitor, although an insectivorous feeder; it is very strange it should arrive here in cold weather. Several of them have been found at Brighton. I have possessed three of them—one obtained at Brighton, one here (Godalming), and one at Harting. All met with in the winter season. The one here, I shot some years ago—thirty or more—in a hop-garden, shaking its tail horizontally, as they all do. It was on the topmost pole, and it puzzled me exceedingly, and being some time in November, and late in the month—too late for the Common Redstart—yet I thought it might be one, and had soiled itself seeking for warmth in some chimney: so I discarded it, which I afterwards regretted very much. It was a female,” &c. (Letter of Mr. Waring Kidd, per Mr. R. Haines.)

DARTFORD WARBLER (*Sylvia undata*). — Mr. J. M. Mitchell observed a pair in a secluded corner of Wandsworth Common for

about five weeks in October and November, 1881. It is interesting to note that this locality was the one in which the presence of this bird in Surrey was first recognized, namely, in 1783. Mr. S. H. le Marchant, of Woking, observed one on Chobham Common in the autumn of 1900 (*in lit.*).

REED-WARBLER (*Acrocephalus streperus*).—Mr. F. Styan found it nesting near Stoke Lock, on the River Wey.

GRASSHOPPER-WARBLER (*Locustella naevia*).—Mr. F. Styan had notes of its nesting in 1880 at Tooting and Redhill.

BEARDED REEDLING (*Panurus biarmicus*).—Mr. G. Dalglish, of Milford, informs me that on Aug. 16th, 1894, he observed a party of five at Milford, near Goldalming, upon an alder tree. He is confident of their identity (*in lit.*). If correct, this is a most interesting record; but, although the species has undoubtedly occurred in the locality mentioned many years ago, the absence of any absolute proof of the authenticity of their identification upon this present occasion renders the record not completely satisfactory.

GOLDEN ORIOLE (*Oriolus galbula*).—Mr. F. Yearley preserved a specimen—a female—shot on Ditton Marsh on June 23rd, 1853 (F. Styan and J. Mitchell).

ROSE-COLOURED STARLING (*Pastor roseus*).—Mr. Yearley, Sen., preserved a specimen shot at Thames Ditton in May, 1845 (F. Styan and J. Mitchell).

MAGPIE (*Pica rustica*).—Mr. R. W. Courage, of Thursley (one of Messrs. Styan and Mitchell's numerous correspondents), informed them, in 1880, that the species in former years was quite abundant near Thursley. Mr. Styan, who at that date regarded it as already rare in the Guildford district, found it then nesting at Haslemere; and on May 21st, 1882, Mr. J. M. Mitchell found a nest at Woking. Mr. W. L. Distant (the Editor of this Journal) has courteously informed me that a pair with their young were observed in the spring of 1900 near Upper Warlingham (*in lit.*). Mr. Garland, of Sidlow, states that it is sometimes seen near that place, where it still breeds (C. E. Salmon, *in lit.*).

HOODED CROW (*Corvus cornix*).—Has been noticed on Chobham Common (S. H. le Marchant, *in lit.*). One was shot in December, 1901, at Sidlow (C. E. Salmon, *in lit.*).

WOODCHAT SHRIKE (*Lanius pomeranus*).—A female was shot at Winterdown, Esher, on May 7th, 1853, and preserved by Mr. Yearley (F. Styan and J. Mitchell).

WAXWING (*Ampelis garrulus*).—A specimen was seen at Windlesham in 1886. It is mentioned in a book called 'The Forest of Windsor,' by G. C. Hughes (S. H. le Marchant, *in lit.*).

HAWFINCH (*Coccothraustes vulgaris*).—Mr. F. Styan had notes of its nest from the Hogsback, Sutton Place near Guildford, and Haslemere—all in about 1880. It nests annually near Lingfield, and in 1894 there were three nests in one orchard (F. H. Birley, *in lit.*). Mr. Dalglish has recent specimens from Guildford (*in lit.*). In 1899 nests were taken on Thornton Heath and Streat-ham Common (Ward Adeney, *in lit.*). Notwithstanding the extensive building operations taking place in Epsom, the species still frequents some quiet gardens there.

GOLDFINCH (*Carduelis elegans*).—Mr. F. H. Birley considers it to be increasing near Lingfield (*in lit.*).

BRAMBLING (*Fringilla montifringilla*).—Large numbers occurred near Windlesham in 1892 (a good year for this species in Surrey, J. A. B.), and near Chobham in 1900 (S. H. le Marchant, *in lit.*). Mr. J. M. Mitchell, in the spring of 1900 and 1901, saw a pair near Elstead, which he was inclined to believe were nesting, but the nest was not discovered (*in lit.*).

LESSER REDPOLL (*Linota rufescens*).—On July 19th, 1887, Mr. F. H. Birley observed a pair feeding their young at Lingfield (*in lit.*).

TWITE (*L. flavirostris*).—Mr. F. Yearley preserved a specimen shot on Dec. 10th, 1868, at West Molesey (F. Styan and J. Mitchell).

CROSSBILL (*Loxia curvirostra*).—Mr. F. Styan had notes of its occurrence in some numbers about 1880 near Guildford and Haslemere. Mr. F. H. Birley informs me that there were a great many at Lingfield in the winter of 1898-9, and that some few stayed till May (*in lit.*). Mr. Dalglish has a male from Guildford, taken this winter (*in lit.*).

CIRL BUNTING (*Emberiza cirrus*).—Mr. F. Styan knew of a nest and two eggs, taken on July 20th, 1873, in Gatton Park, which were recorded in the 'Proceedings' of the Croydon Natural History Society, 1879, p. 35; and of another nest and

eggs, taken at Woodcote, near Croydon, on July 15th, 1878. Mr. F. H. Birley found a nest with eggs in a garden near Reigate Heath in 1887, and another, also with eggs, in the same place in 1890 (*in lit.*).

GREY WAGTAIL (*Motacilla melanope*).—Mr. S. H. le Marchant informs me that he has often observed this species in winter near Chobham (*in lit.*). In July, 1901, a pair were constantly observed feeding one young bird near Farnham; they were most carefully identified (C. H. T. Whitehead, *in lit.*).

YELLOW WAGTAIL (*M. raii*).—Mr. S. H. le Marchant has found it nesting at Chobham (*in lit.*).

GREAT SPOTTED WOODPECKER (*Dendrocopus major*).—Mr. F. Styan found a nest with eggs in a large alder on the Wey, near Stoke Lock, in 1879. Mr. S. H. le Marchant often observes the species near Chobham (*in lit.*), and Mr. Dalglish has a male, shot this winter at Guildford (*in lit.*).

LESSER SPOTTED WOODPECKER (*D. minor*).—Mr. F. Styan knew of a nest at Egham in 1881. It was observed at Deepdene, Dorking, in December of 1899 by Mr. Harold Russell (*in lit.*). It also nests regularly at Chobham Place, where it may often be observed (S. H. le Marchant, *in lit.*). It has also nested recently (1901) at Sidlow (C. E. Salmon, *in lit.*).

KINGFISHER (*Alcedo ispida*).—Mr. J. M. Mitchell took a nest and five eggs at Balham in June, 1879. Mr. F. H. Birley informs me that it nests annually on the upper part of the little stream which eventually forms the water-jump on Lingfield race-course (*in lit.*). Mr. Dalglish considers that it is on the increase near Milford (*in lit.*).

HOOPOE (*Upupa epops*).—Mr. F. Yearley preserved four, shot in the neighbourhood of Claremont between the years 1850–60, one of which was killed at Claygate in July of 1859 (F. Styan and J. Mitchell). Two of the other three may well be identical with two specimens which I mention in the 'Birds of Surrey' (p. 165) as having been obtained on Barnes Common in 1854, and at Esher in 1855. The third appears to be a new record (J. A. Bucknill). In Mr. G. C. Hughes's 'Forest of Windsor' it is stated that one was seen at Sunningdale Station, just inside the Surrey boundary, but no date is given (S. H. le Marchant, *in lit.*). In the 'Field.'



LONG-EARED OWL (*Asio otus*).—Mr. F. Styan had the following notes on this species not hitherto recorded by me:—

1. A nest at Witley in 1863, from which a nestling was taken and reared (*fide* Bryan Hook).

2. A nest with five eggs, taken on Reigate Hill on March 28th, 1874 (*fide* J. B. Crosfield).

3. A partly fledged bird, captured near Boxhill on June 5th, 1876 (*ib.*).

4. A nest with eggs near Churt in 1881 (*fide* Bryan Hook).

5. Found nesting about 1882 at Thursley, where it occasionally bred (*fide* R. W. Courage).

Mr. S. H. le Marchant informs me that he observed a pair at Chobham about 1897, which were probably nesting (*in lit.*). Mr. G. Dalgliesh has a male, taken this winter at Farley Heath, near Albury (*in lit.*).

HEN-HARRIER (*Circus cyaneus*).—A female was shot at Wisley in December, 1869, and preserved by Mr. F. Yearley; an immature female was shot on Jan. 20th, 1880, by a Mr. H. Bucknall, near Banstead, and was preserved; Mr. R. W. Courage had a male in his collection, shot near Thursley, and stated (in 1880) that it had been also known to occur there in spring (F. Styan and J. Mitchell).

MONTAGU'S HARRIER (*C. cineraceus*).—Mr. Stafford, of Godalming, informed Mr. F. Styan that the specimen in his (now the Charterhouse) collection was found dead (as mentioned in my 'Birds of Surrey,' p. 179) by the side of its nest on Royal Common. The nest contained four eggs. As this occurrence was so long ago as 1840, and as the species has been killed or observed more than once in the same spot, the story may well be true.

COMMON BUZZARD (*Buteo vulgaris*).—Mr. Stafford gave 1851 as the date when the pair in the Charterhouse collection, "killed whilst nesting at Witley," referred to in my 'Birds of Surrey' (p. 181), were taken. He also stated that the birds had nested there three years in succession, and that the young had been taken and successfully reared by the master of Witley Workhouse. An idea, however, grew up that the birds did damage to chickens, and they were therefore shot. Mr. R. W. Courage, in 1880, informed Mr. F. Styan that the species had been known to occur near Thursley (F. Styan and J. Mitchell). In November of 1901

a specimen was trapped by Mr. Cosmo Bonsor's keeper at Kingswood Warren. It passed into the possession of Mr. H. Skilton, of Epsom, and was preserved by Mr. Anstiss, of London.

**ROUGH-LEGGED BUZZARD** (*B. lagopus*).—Mr. J. M. Mitchell saw in the flesh a very fine male of this species, which had been shot near Croydon in the late winter of 1879 (F. Styan and J. Mitchell).

**WHITE-TAILED EAGLE** (*Haliaëtus albicilla*).—In November of 1876 Mr. H. S. Styan, whilst fishing on Virginia Water, saw two birds of this species wheeling round and over the surface of the lake. Mr. Keene, the local fisherman, who was with Mr. Styan at the time, informed him that in the first place, about the end of October, three of these birds had appeared in Windsor Park. One had been caught in a trap baited with fish, and presented to H.R.H. Prince Christian. Orders had been given to the keepers not to shoot or destroy the other two, but, if possible, to capture them alive; the attempts made to do so were, however, unsuccessful, and they remained in the district for some time. They were sometimes seen to attack the wildfowl on the lake (F. Styan and J. Mitchell).

**RED KITE** (*Milvus ictinus*).—Mr. F. Styan saw a female in Mr. W. Stafford's collection in 1880, which Mr. Stafford then informed him had been killed near Godalming in March of 1870. Whether Stafford's story to Mr. Styan is correct or not, it is, of course, now impossible to say, but the specimen was not in his collection in 1884; and I am unable to trace the specimen in any way (J. A. Bucknill). Mr. F. Styan was also informed by a Mr. F. Roberts, of Haslemere, that a pair frequented Hindhead very many years before 1880—a not improbable though unsubstantiated story. I have myself heard a similar rumour from more than one source. I have also been informed by Mr. Luke Humphrey, of Headley, that about 1878 a specimen was caught at Boxhill, and preserved, and kept by the late Sir Richard Glasse, then at High Ashurst, Headley.

**PEREGRINE FALCON** (*Falco peregrinus*).—In the spring of 1880 a male was shot on Merrow Downs, and identified as a wild bird by Capt. Salvin. Mr. R. W. Courage had a specimen, killed at Thursley in spring, and stated, in 1880, that it had been known to occur there before that date (F. Styan and J. Mitchell).

HOBBY (*F. subbuteo*).—Mr. F. Styan and Mr. J. Mitchell have the following interesting notes on this species, the more valuable because they record the first definite occurrence of the bird nesting in Surrey, although there was not much doubt that such had been the case:—

1. On June 17th, 1873, one was shot at Weybridge, and preserved by Mr. F. Yearley.

2. A pair nested at Normandy Farm, near Wanborough, in 1879. The male was shot, and the young in down taken with the nest; the hen escaped. The male and nestlings were preserved in a group, together with a hen Kestrel, by Bradden, of Guildford. In 1880 another pair nested in the same spot, and safely reared their young; but in the autumn a mature female, supposed to be the mother bird, was shot there, and cased with the previous lot, replacing the hen Kestrel. The group was eventually purchased by a Mr. Hancock, of Newcastle, to whose residence it was removed (*vide* Capt. Salvin).

3. Mr. R. W. Courage stated, in 1880, that it had been known to occur at Thursley in summer.

A male was shot on Aug. 12th, 1901, in Mr. Herbert Brooks's park at Epsom by his gamekeeper, and preserved by Mr. C. Lisney, of Ashted. I have seen this specimen (J. A. Bucknill).

MERLIN (*F. aesalon*).—One was shot in the winter of 1880–1 near Guildford, and preserved by Bradden. Mr. R. W. Courage had a specimen in his collection, shot at Thursley, and stated (in 1880) that he had known it occur there on other occasions (F. Styan and J. Mitchell).

(To be continued.)

## NOTES AND QUERIES.

## MAMMALIA.

**Black Variety of Water-Vole.**—On May 16th I saw in this neighbourhood a specimen of the black variety of the Water-Vole (*Arvicola amphibius*). It was swimming a short way off when I first saw it, and dived on catching sight of me. The water was clear, and I was able to follow its course until it came to the surface. After swimming a yard or two it dived again, and I saw it no more. I have seen the animal in Scotland, and do not think I could possibly have been mistaken in the identity.—T. VAUGHAN ROBERTS (Nutfield, Watford).

## AVES.

**Motacilla beema** in Sussex.—In this Journal for 1901, p. 389, I recorded an instance of the breeding of the Blue-headed Wagtail near Winchelsea, in this county, and stated, on the authority of Mr. H. E. Dresser, that the birds came nearest to the form described by Sykes as *Motacilla beema*. Shortly afterwards Mr. Ernst Hartert informed me that there was a Wagtail in the Tring Museum which from the first he had assigned to Sykes's subspecies. I have had the privilege of examining this specimen (a male, shot near Rottingdean, April 20th, 1898), and after carefully comparing it with the original description, and with skins of allied forms, I fully agree with Mr. Hartert's identification.—W. RUSKIN BUTTERFIELD (St. Leonards-on-Sea).

**White Rook at Aberdeen.**—A White Rook (*Corvus frugilegus*) was shot in the Whitehaugh Woods, Alford, Aberdeenshire, on May 21st. This occurred during a raid among the Rooks, which was made in order to keep them within what is believed to be suitable numbers for the district. It is reported that they were not so numerous as in former years, so that it may be assumed that the severe onslaughts which have been made upon them for the last few years have resulted in diminishing their number. It would be well that this were so, and that the annual raids upon them were curtailed, because when the latter were continued for some days and nights in continuation the Rooks took to the surrounding moors, and were eating the eggs of Grouse. Referring to the subject of White Crows, I once saw one which I imagine to have been a Hooded Crow (*Corvus cornix*), as it came from a plantation during a hunt, where in some years these



birds resort in this district, and where there is neither rookery nor Rooks.—W. WILSON (Alford, Aberdeen, N.B.).

Migrants at Aberdeen.—Swallows arrived here on May 15th; Warblers from May 12th to 15th. Cuckoos are few in numbers, and very little heard of them on account of the bad weather; so that the increase of former years has not been maintained. First one heard May 4th, the only one on to May 9th.—W. WILSON (Alford, Aberdeen, N.B.).

The Spring Migration of Swallows.—On Thursday, May 8th of this year, I arrived at Spiez, on the Lake of Thun, Switzerland. Swallows were seen flying over the lake: on the following day they were in greater numbers, busily hawking for food over the surface of the water, and frequently resting on stones at its edge. On Saturday they were in immense numbers all the way between Interlaken and Spiez, at the former place in the evening the steamboat seemed almost to have to cut a passage through their ranks. On Sunday morning, May 11th, no sign of a Swallow was to be seen. Weather all the time was rainy, wind S.E., moderate in force, temperature about 45 degrees Fahr.: tops of the near mountains generally hidden in cloud, and the distant mountains invisible.—T. P. NEWMAN (Hazelhurst, Haslemere, Surrey).

## INSECTA.

Mole-Cricket in Surrey.—It may interest entomologists to know that on the night of June 3rd I caught a very fine specimen of the Mole-Cricket (*Gryllotalpa vulgaris*). These insects, I believe, are very rare, or else extremely local. I have only one other in my collection, caught at Churt, in the neighbourhood here, some time ago. These are the only two I have ever seen. I have questioned several people about them, and showed them my specimens, and no one seems to have met with the species, and to country people it is quite unknown.—GORDON DALGLIESH (Inglefield, Milford, near Godalming).

[This insect, often known as *Curtilla gryllotalpa* and *Gryllotalpa gryllotalpa*, is stated by Mr. Burr, in his 'British Orthoptera,' to be local in distribution, and found chiefly in the south. Stephens gives Devon, Cornwall, and Ripley. It is to be found in the New Forest, near the Chichester Canal, and at Besselsleigh, in Berkshire. It lives in holes in damp and sandy places, and is also found in potato-fields. Mr. W. F. Kirby informs me that he has heard, or read, that a good way of entrapping males of this species is to throw down water on a gravel path over night, and to lay boards over the place, when the insects may be found under the boards in the morning. The insect is seldom met with, and but few entomologists come across it in the country.—ED.]

## NOTICES OF NEW BOOKS.

*The Naturalist on the Thames.* By C. J. CORNISH, F.Z.S.  
Seeley & Co., Limited.

THE love of the Thames is scarcely confined to Londoners; it is always the popular river to Englishmen. Its upper waters are best known to the angler and the boating man; down its course to the sea has travelled from time to time the enterprise of Great Britain. There is an opportunity for a journal to be devoted solely to this river, while a Thames Natural History Society only requires formation for its success to be assured. We therefore gladly welcome Mr. Cornish's contribution to this delightful theme.

Some of the chapters in this book will be familiar to readers of the 'Spectator' and the 'Badminton Magazine,' and some travel a little beyond the strict scope of natural history; but Mr. Cornish is seldom dull, and always instructive. A river can be studied like a vast aquarium, by those who will use their eyes with persistent method, and the author has given some instances of how this may be done in his chapter on the "Insects of the Thames." Very suggestive, too, is the one devoted to the "Antiquity of River Plants," and their animal frequenters. "The creatures which lived on these prehistoric plants live on them now, and in exactly the same parts of the stream. The same shells lie next the banks in the shallows as lie next the bank of the prehistoric river of two million years ago whose bed is cut through at Hordwell Cliffs on the Solent."

We are glad to find that the efforts for animal preservation made by the Thames Conservancy and various County Councils have been followed with excellent results. The Herons from Richmond Park have extended their usual nightly fishing-ground, which formerly ended at Kew Bridge, four miles further down the river, almost to Hammersmith Bridge, and have even been heard at Chelsea. Since the middle of June, 1890, large shoals of Dace,

Bleak, Roach, and small fry have appeared in all the reaches, from Putney upwards; while Smelts now ascend the Thames as they did before the river was polluted, and are freely caught at Chiswick. We may also hope for the plentiful appearance once more of the Crayfish, whose almost complete destruction was due to a disease, well known in France, which first appeared near Staines, and worked its way up the Thames.

We have heartily enjoyed the perusal of this nicely illustrated book, and trust that it may be the harbinger of other work on the natural history of our well-loved river.

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*A Treatise on the Birds of Gloucestershire, with a Reference List of all the Species known to have appeared in the County.*  
By W. L. MELLERSH, M.A. Gloucester: John Bellows.  
London: R. H. Porter.

COMPARED with most books on county ornithology, this publication is distinctly novel, and written on a different method; the presence or absence of birds in Gloucestershire is discussed more on a philosophical than on a reporter's basis; the geological floor, with its consequent surface flora, is shown to have its influence in the distribution of our avifauna, and we at length feel that there is some reason for the presence of the rare bird that fell to the gun of the faithful recorder. Gloucestershire is thus considered as a dominant partner, and the presence of birds less of a chance occurrence. We are not attempting to spoil a good book by absurd panegyric, but we do recognize that Mr. Mellersh has proposed a philosophical basis for a recognition of even the birds of a single county. To find there is a reason to be adduced on natural causation for the presence of a bird is tantamount to our believing in a purpose running through the ages. We know that causation is often confused with theory by many writers, but the still small voice is yet recognized in biology, despite the discrepancies in rival suggestions. In fact, evolution is slowly becoming an orthodox idea in contradistinction to the theories of specialists and doctrinaires. Science is more concerned with the reason why a bird is in a certain habitat, rather than with the fact that it is there; and that is a question that the author of this book shows is capable of discussion. His enumeration may

or may not be imperfect; his conclusions may or may not be final; but he has contributed an instructive essay on the subject of his county's ornithology, and has inculcated a method which we may hope to see followed in philosophical ornithology.

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*Moose-Hunting, Salmon-Fishing, and other Sketches of Sport.*

By T. R. PATTILLO. Sampson Low, Marston & Co., Limited.

ALTHOUGH this is a volume primarily addressed to the sportsman, it contains very much of interest to the naturalist, and refers to the somewhat little-known fauna of Nova Scotia. We wish the author would write another volume, discarding his shooting and fishing exploits, and giving us only his zoological observations. He has been alone with the animals he has shot and captured, he gives abundant hints of the observations he has made on their habits, and he has almost a responsibility to publish them. In fact, one passes over matter instructive in animal bionomics by being carried away captive to the domain of sport so well and enthusiastically described by Mr. Pattillo. If, however, he is a poor sportsman who is no naturalist, so is he a circumscribed naturalist who has never felt the ardour of the sportsman; and in this spirit the work may be read with advantage by both parties. The last chapter—not the worst in the book—requires supervision. Once more we meet with our old nautical enigma, the “Dolphin.” Our readers will probably surmise that the “Dolphin” here referred to is a fish, the well-known *Coryphæna*.



## EDITORIAL GLEANINGS.

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ONE of the most interesting exhibits at the *Conversazione* of the Royal Society on May 14th was that made by the Marine Biological Association with reference to the scales of fishes as an index of age. The scales of many fishes show a series of parallel eccentric lines, which indicate successive increments of growth. These lines of growth have been found to be more widely separated in that part of the scale formed during the warm season of the year than in the portion formed during the cold season. The alternation of the two series gives rise to the appearance of "annual rings," which indicate the age of the fish in years. The markings are subject to individual variation, and Mr. J. Stuart Thomson has been engaged on their investigation in fish of different species captured at all seasons of the year. His results show that it is possible to determine the age of individual fishes of many species with considerable precision—a conclusion which will greatly facilitate the study of other points in the natural history of fishes, and has important practical applications.

Lewenhoeck long since observed that from carefully examining the scales of fish through a high magnifier, you may easily ascertain its age, from the first scale to the last, which are never shed.

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NATURE'S reign of terror at Martinique has affected all animals alike—man and his more humble relatives. We read of a "panic of the dumb animals" in the daily press. Records of previous earthquakes and volcanic eruptions mention that most animals have a sort of premonition of what is going to happen, even when there are no perceptible tremblings, and hasten from the neighbourhood of danger. Such was the case at St. Pierre, it would seem from a 'New York Herald' telegram. The correspondent quoted by the 'Daily Telegraph' says:—"Even before Mont Pelée began to rumble late in April, live stock became uneasy, and at times were almost uncontrollable. Cattle lowed in the night, dogs howled and sought the company of their masters, and when driven forth they gave every evidence of fear. Wild animals disappeared from the vicinity of Mont Pélee. Even snakes, which at ordinary times are found in great numbers near the volcano, crawled

away. Birds ceased singing, and left the trees that shaded the sides of the mountain. A great fear seemed to be upon the island, and though it was shared by human inhabitants, they alone neglected to protect themselves."

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We have received the Report of the "Breydon Wild Birds Protection Society" for the seasons 1898-1901. This Society is doing a work that should receive the support of all British ornithologists. It particularly concerns itself with the protection of Spoonbills, which again show a tendency to make a permanent residence at Yarmouth. That this protection is much needed the present writer can testify. Last Eastertime he was shown a specimen, purchased from a London purveyor, and said to have come from Caithness. This locality he at once denied, and further enquiries elicited the new locality "Suffolk." It was doubtless a Breydon bird! It need scarcely be said that the Society requires funds, and to those willing and able to assist, we may give the address where subscriptions will be heartily welcomed:—  
HENRY P. FREDERICK, Hon. Sec., 3, South Quay, Great Yarmouth.

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We extract the following from the 'Veld,' an excellently illustrated monthly, published at Cape Town:—"Forty years ago whaling was a prosperous industry at the Cape of Good Hope, and several whaling stations, with their boats and crews, were situated all round the peninsula. At Sea Point the fishery was known as Grainger's, and when a certain flag was hoisted on the Lion's Rump it was known that a Whale was in the Bay, and that Grainger was after it. The only survivor of these stations is that at Muizenburg, and the Aurets are now the only regular whalers in these regions; although, should a 'fish' put in an appearance in any of our waters, our fishermen are prepared, at very short notice, to give him a hot time. Year by year the Aurets manage to harpoon an odd Right Whale which has wandered north from his Antarctic fastnesses, and last year, on Sept. 27th, they made a fine capture. After a hard chase and a hot fight in the Bay the leviathan was landed on the Muizenburg beach, about a mile from the station, and the next morning the process of cutting up began at an early hour. A great number of people came from Cape Town to see the sight, and the Muizenburg beach was quite lively with comers and goers. The Whale-beef—coarse loose flesh—was eagerly carried off by coloured people, who evidently esteem it a dainty. The blubber, which lies immediately under the skin to the depth of ten or twelve inches, was next taken off in long strips, and carried to huge tubs

provided for the purpose. This, when 'tried' or boiled down, furnishes the oil. The most valuable part of the creature is, however, the strainer in its cheeks and throat. This is the whalebone, which nowadays fetches about thirty shillings a pound. At Kalk Bay the folk say that the Whale referred to was worth about £600. It is 45 ft. in length, and the flukes of the tail measured 15 ft. across.

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IN the 'Wide World Magazine' for May, Mr. C. E. Borchgrevinck contributes an article on "Penguins and their Ways." In our previous volume (p. 192) we gave a notice, with some extracts, of Mr. Borchgrevinck's volume, 'First on the Antarctic Continent,' and the present article supplements the Penguin narrative.

"When we arrived at Victoria Land in the 'Southern Cross,' in February, 1899, only a few Penguins were left, most having gone northwards. We had met them in shoals in the open water, where they jumped about like so many Porpoises round our vessel. Only some stragglers were left on the triangular peninsula at Cape Adare. Not many days after we had landed the last Penguin dived into the sea, and left us to face the stern Antarctic winter alone. Until that memorable Antarctic spring day came, the 14th of October, 1899, no Penguins were to be seen. On that date one lonely old Penguin waddled slowly towards our camp just as the zoologist of the expedition\* was dying. That first poor Penguin was also destined to meet death on the date of its arrival, for, at the wish of the dying man in the hut, we killed it, as he wanted to examine it.

"Next day several more Penguins arrived, although there was no open water near the coast. They had evidently walked great distances. Soon a continual stream of Penguins walked towards us from over the immense white expanse; they looked for all the world like so many small people rolling from one side to another, with their flippers outstretched like short arms to maintain their equilibrium. They were not in the least frightened of us. Perchance they took us for a new kind of Penguin! Certain it is that they came up to us, walked round about us, and evidently discussed us—in short, examined us thoroughly—before they again started off on the march towards their breeding-places. It was curious to see how they stuck to their Indian-file method of progression, one always travelling in the step of the preceding one, until long tracks in the snow, winding in and out between the ice-blocks, were to be seen towards Cape Adare.

\* Nikolai Hanson.

"The only deviation from these acknowledged tracks was made when one or more of us ten human beings appeared near their road. Then the Penguin who first discovered us, with a hoarse little croak, would break the line and start off towards us. On reaching us he would stop, and gradually all the Penguins would stop behind him, in the same way as railway carriages stop when the engine ahead is pulled up. The first Penguin, having inspected us from one point of view, would start to walk round us, the others gravely following. The first birds, having satisfied their curiosity, started off, joining the main track by a short cut. Looking at them from behind, the contours of their dark backs stood sharply cut out against the white snow. This, in addition to their slow gait, their frequent halts, their grave and unearthly silence while walking in their ordered lines, irresistibly conveyed to the human mind an impression of a Lilliputian funeral procession."

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THE Essex Field Club has reached maturity, and its "coming of age" was the subject of an address by its president, Prof. Meldola, of which we have received a copy. As we read:—The actual work accomplished down to the present time will be found in the nineteen volumes of publications; five volumes of 'Transactions' and 'Proceedings,' and, commencing in 1887, eleven volumes of the 'Essex Naturalist,' together with the three volumes of 'Special Memoirs.' It is not only by the number of printed pages, however, that the work will be judged in the future. A study of the contents of these nineteen volumes will show that the Club has on the whole kept faithfully to the programme as set forth in its original rules:—"The investigation of the natural history, geology, and archæology of the County of Essex (special attention being given to the fauna, flora, geology, and antiquities of Epping Forest); the publication of the results of such investigations, &c."

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WE learn from the Report of the Hampstead Scientific Society for the year 1901, that it is hoped that the material for the publication of "The Fauna and Flora of Hampstead and its Neighbourhood" will be sufficiently advanced for the first part to appear in the autumn of 1902. The General Editors are Mr. Basil W. Martin and Dr. J. W. Williams, with the assistance of Messrs. Hugh Findon, Montagu F. Hopson, C. S. Nicholson, the Rev. F. A. Walker, and Mr. James E. Whiting.

